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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MOYER, MICHAEL J

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 03/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/524,029

Applicant(s)

BELL, CYNTHIA S.

Examiner

Michael J. Moyer

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 8-12, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Helms, U.S Patent No. 5,760,760.

As per **claim 1**, Helms teaches:

A method, comprising:

receiving an indicator of the ambient light for a system having a display (col. 3, lines 13-21); and automatically adjusting a brightness for the display based upon the indicator (col.1, lines 5-8)

As per **claim 2**, Helm teaches:

The method of claim 1, further comprising:

using the indicator as an index into a look-up table (col. 3 and 4, lines 51-67 and 1-5, respectively).

As per **claim 3**, Helm teaches:

The method of claim 1, wherein receiving the indicator of the ambient light further comprises using a brightness control circuitry (col. 3, lines 25-33), which can be construed as a light meter circuit.

As per **claim 5**, Helm teaches:

The method of claim 2, further comprising:
receiving a brightness value for the display from the look-up table (col. 3 and 4, lines 60-67 and 1-5, respectively).

As per **claim 8**, Helm teaches:

A system, comprising:
a receiver of light information to produce an indicator (col. 3, lines 13-21); and
a microprocessor, which can be construed as the driver, coupled to the receiver, wherein the microprocessor (driver), #204a, receives the indicator, and, based upon the indicator, automatically sends a signal to control a brightness of a display (col. 3, lines 29-38 and Figure 2, #204a).

As per **claim 9**, Helm teaches:

The system of claim 8, further comprising:
a display coupled to the microprocessor, (driver) #204a, wherein the display, #12, receives the signal (col. 3, lines 29-38 and Figure 2, #12 and #204a).

As per **claim 10**, Helm teaches:

The system of claim 8, further comprising:
a look-up table in the receiver, comprising a plurality of values corresponding to the light information and a plurality of values corresponding to the indicator (col. 3 and 4, lines 51-67 and 1-5, respectively).

As per **claim 11**, Helm teaches:

The system of claim 10, wherein the microprocessor, (driver) #204a, receives the indicator from the look-up table, #204b, (col. 3 and 4, lines 60-67 and 1-5 and Figure 2, #204a and #204b)

As per **claim 12**, Helms teaches:

The system of claim 10, wherein the plurality of values and the plurality of indicators in the look-up table are based upon a display type (col. 3 and 4, lines 60-67 and 1-5, respectively).

As per **claim 17**, Helm teaches:

The system of claim 8, wherein the indicator is a voltage from a sensor (col. 3, lines 13-22).

As per **claim 18**, Helms teaches:

An article comprising a medium storing instructions that, upon execution, cause a processor-based system to:

receive an indicator of the ambient light for a system having a display; and automatically adjust a brightness for the display based upon the indicator (col. 3, lines 29-38 and Figure 2, #204a).

As per **claim 19**, Helms teaches:

The article of claim 18, further storing instructions that, upon execution, cause a processor-based system to:

convert the indicator into a second indicator (col. 3, lines 39-50);

use the second indicator to derive a value(col. 3, lines 39-50); and

automatically adjust the brightness for the display using the value (col. 3, lines 51-59).

As per **claim 20**, Helm teaches:

The article of claim 18, further storing instructions that, upon execution, cause a processor-based system to:

use the indicator as an index into a look-up table; and
receive a brightness value for the display from the look-up table (col. 3 and 4, lines 51-67 and 1-5, respectively).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms as applied to claim 1 above, and further in view of Hosoi et al., U.S Patent No. 5,589,934.

As per **claims 4 and 6**, Helms discloses an indicator of ambient light (col. 3, lines 13-21) uses a brightness control circuitry (light meter circuit) (col. 3, lines 25-33) that helps the process of automatically adjusting the brightness of a display (col.1, lines 5-8).

Helms does not disclose: a) referring to **claim 4**, an imager with a plurality of sensors that are used to accumulate energy, derive an integration time based on the

accumulated energy and to determine the indicator based on that time, b) referring to **claim 6**, an analog voltage signal resulting from the accumulated energy.

Hosoi et al. discloses a light measuring apparatus, which measures ambient light and flash light (col. 1, lines 8-10). This apparatus can further be construed as an imager, i.e. camera. This apparatus is able to take a picture or pictures with instant film, #10. A sensor is used to read the ambient light. A photoelectric converter #40 for converting the light into an analog signal, which corresponds to the intensity of the light being measured. The signals are then accumulated in two integration circuits, #44 and #46. Within these two integration circuits, integration time signals or indicators are generated by the accumulated signals and outputted to a A/D converter and so on (col. 3, lines 48-67 and Figure 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the light measuring apparatus, which is able to store the accumulated in energy, derive an integration time and determine the indicator of Hosoi et al. with Helms.

The suggestion/motivation for doing so would have been to provide an apparatus, which can be a camera, is able to automatically adjust the brightness caused by insufficient or too much ambient light. If this apparatus is used as a camera, the user is able to obtain a clear and hopefully precise picture without the worrying about the problem of insufficient or much light or if used with together with a camera the same results could be desired.

Therefore, it would have been obvious to combine Hosoi et al. with Helms to obtain the invention as specified in claims 4 and 6.

3. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Helms as applied to claim 1 or 3 above, and further in view of Toffolo et al., U.S. Patent No. 6,337,675 B1.

Helms discloses an indicator of ambient light (col. 3, lines 13-21) uses a brightness control circuitry (light meter circuit) (col. 3, lines 25-33) that helps the process of automatically adjusting the brightness of a display (col. 1, lines 5-8).

Helms does not disclose light meter circuit that produces a logarithmic representation of the incident light.

Toffolo et al. discloses a graph that presents a linear representation of the ambient light vs. the display luminance. Toffolo et al. further states that a logarithmic representation may be used instead of a linear representation (col. 2, lines 14-61 and Figure 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the logarithmic representation of Toffolo et al. with Helms.

The suggestion/motivation for doing so would have been to provide a better range of luminance. Compared to a linear representation, a logarithmic has many determining coefficients and other variables that make the representation of incident light last longer, quicker etc.

Therefore, it would have been obvious to combine Toffolo et al. with Helms to obtain the invention as specified in claim 7.

4. **Claims 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms as applied to claims 8, 10 or 12 above, and further in view of Chikazawa, EP 0 883 103 A1

As per **claims 13-14**, Helms discloses system that uses an indicator of ambient light (col. 3, lines 13-21), the indicator goes through a process in which a certain value is referenced from a look-up table (col. 3 and 4, lines 51-67 and 1-5, respectively), that is used to automatically adjust the brightness level of a display (col.1, lines 5-8).

Helms does not disclose a direct view liquid crystal display that can be used as a microdisplay.

Chikazawa discloses a direct view liquid crystal display (col. 1, lines 3-4) in which the color in the display can be automatically or manually adjust from the intensity of the ambient light source or the back source light (col. 1, lines 23-26 and 38-42). This LCD can be used in a video camera, which can be construed as a microdisplay (col. 1, lines 5-9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the direct view LCD, to be used in a microdisplay of Chikazawa with Helms.

The suggestion/motivation for doing so would have been to provide a microdisplay that uses a direct view LCD with the method of automatically adjusting the brightness of the backlight. In turn, the apparatus, now having a direct view LCD and

being a microdisplay, would encompass the methods of automatically adjusting the brightness and color. This would allow the user to operate a smaller video camera compared to a large video camera and the opportunity to view and record a great looking picture that should be perfectly viewed if focused and properly taken.

Therefore, it would have been obvious to combine Chikazawa with Helms to obtain the invention as specified in claims 13-14.

5. **Claims 15-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms as applied to claim 8 above, and further in view of Bowen et al., U.S. Patent No. 6,046,730.

As per **claims 15-16**, Helm discloses system that uses an indicator of ambient light (col. 3, lines 13-21), goes through a process in which a certain value is referenced from a look-up table (col. 3 and 4, lines 51-67 and 1-5, respectively), that is used to automatically adjust the brightness level of a display (col.1, lines 5-8).

Helms does not disclose an LCD that can be used as a mobile communication device and a mobile information device.

Bowen et al. discloses an apparatus that encompasses an LCD that can be used as a mobile communication device and mobile information device (col. 1, lines 9-15, col. 2, lines 40-54, col. 14, lines 64-67, col. 15, lines 1-9 and col. 15, lines 62-65)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the apparatus' of Bowen et al. with Helms.

The suggestion/motivation for doing so would have been to provide, in general a better operating apparatus. One advantage is with Helms, LCD and method of

automatically adjusting the brightness, a person is able to conserve the power of a battery. By letting the LCD adjust itself, it will set the correct brightness to which the user may view the screen, according to the ambient light present. Also, by letting the LCD do this, it is able to decrease the brightness during low ambient light conditions. Another advantage is this LCD is able to learn a user's preferred brightness setting. If the user doesn't like what automatic adjustment has done, he/she may manually input the setting to their liking and store it in memory. By expanding these methods to different apparatus', i.e. cell phones, PDA's, a more marketable product is enticed to the consumers.

Therefore, it would have been obvious to combine Bowen et al. with Helms to obtain the invention as specified in claims 14-16.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a). Yamada, U.S Patent No. 6,256,067 B1. Yamada teaches a electronic camera that reduces or eliminates the effect of back lighting.

b) Suzuki, U.S Patent No. 6,078,302. Suzuki teaches a screen brightness control that uses to a timer and triggering pulse to achieve desired results.

c) Kouhi, U.S Patent No. 5,684,294. Kouhi teaches a Proximity and ambient light monitor (PALM).

d) Ottenstein, U.S Patent No. 5,270,818. Ottenstein teaches an automatic brightness control for cockpit displays.

e) Aoki et al., U.S Patent No. 4,760,389. Aoki et al. teaches an automatic brightness transmitting type display.

f) Yuasa et al., U.S Patent No. 4,291,979. Yuasa et al. teaches a light measuring device used in photograph that uses integration time based signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Michael J. Moyer** whose telephone number is **(703) 305-2099**. The examiner can normally be reached Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Steven Saras**, can be reached at **(703) 305-9720**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

MJM
March 14, 2002


STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Michael J. Moyer
Examiner
Art Unit 2675